

EQUIPMENT

Gyroscopic

USSR

UDC 531.1

NOVOZHILOV, I. V., Moscow

"Transition to the Precession Equations of Gyroscopy in an Infinite Time Interval"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 5, 1971, pp 10-15

Abstract: The results of I. S. Gradshteyn [Matematicheskiiy Sbornik, Vol 32, No 3, 1953] to formulate the conditions on satisfaction of which the precession equations can be used in an infinite time interval. A gyroscopic system is investigated the confluent equations of which have a partial solution of the type of the position of equilibrium. This position of equilibrium is assumed asymptotically stable with respect to the first approximation on the strength of the confluent equations. In each step of the investigation (the step of entry of the solution into the small neighborhood of the position of equilibrium and the step of movement in this neighborhood in an infinite time interval) the existence of a value of a small parameter μ which will solve the problem in its step is established. The least of these two values can be considered as the value of the small parameter solving the problem as a whole. An example of constructing the precession equations for a specific gyroscopic system is 1/2

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NOVOZHILOV, I. V., Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 5, 1971, pp 10-15

presented. The problem of "adding" the Cardan joint rings of the gyroscope under the effect of constant moments with respect to its axes is solved. The picture of the movement corresponding to this "adding" of the rings is presented in the form of a figure.

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UDC: 531.1

NOVOZHILOV, I. V., Moscow

"Systematic Drifts of Gyroscopic Devices as Related to the Power of an Elementary Divisor of the Zero Root of the Linear Part of Equations"

Moscow, Izvestiya AN SSSR: Mekhanika Tverdogo Tela, No 4, Jul/Aug 71, pp 38-42

Abstract: The author considers the equations of motion for small oscillations of a gyroscopic system close to its initial position. It is shown that the systematic departure of gyroscopic devices from the initial position may be an arbitrary power function of time which depends on the power of the elementary divisor of the zero root of the linear part of the equations of motion. Examples are given of systems with drifts which are linear and quadratic functions of time.

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NOVOZHILOV, I. V. (Moscow)

"The Use of Asymptotic Expansions of Differential Equation Theory With a Small Parameter in Connection with the Leading Derivative for the Investigation of Gyroscopic Systems"

Moscow, Mekhanika Tverdogo Tela, No 4, Jul-Aug 70, pp 50-57

Abstract: It is shown that a small parameter in connection with the leading derivative can be introduced into the equations of motion of gyroscopic systems. For this a substantial difference is required in the value of the time characteristics of the "precessional" and "mutation" components of motion. The solution is constructed by means of asymptotic expansions used in the theory of equations of this kind. Here the nutation and precessional components of motion, as well as that of the "Magnus drift," are obtained by formal construction of the corresponding terms of the asymptotic expansion. 8 bibliographic entries.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DEPENDENCE OF THE RUNOUT TIME OF AN ELECTROSTATIC GYROSCOPE ON THE
ROTOR UNBALANCE -U-
AUTHOR--(03)--MARTYNENKO, YU.G., NOVOZHILOV, I.V., DANILIN, V.P.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIIA, MEKhanika TVERDOGO TELA, MAR. APR. 1970, P. 20-22
DATE PUBLISHED--70
SUBJECT AREAS--NAVIGATION
TOPIC TAGS--GYROSCOPE MOTION, ELECTROSTATICS, VIBRATION DAMPING, RUNOFF
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAme--2000/0268 STEP NO--UR/0484/70/000/000/0020/0022
CIRC ACCESSION NO--AP0124029
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124029

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. STUDY OF THE EFFECT OF ROTOR UNBALANCE ON THE RUNOUT TIME OF AN ELECTROSTATIC GYROSCOPE WITH A SPHERICAL SHAPED ROTOR. IT IS SHOWN THAT THE ROTOR UNBALANCE LEADS TO BEATING OF THE ROTOR RELATIVE TO THE GYROSCOPE CASING AND TO DISSIPATION OF THE ROTATIONAL MOTION ENERGY OF THE ROTOR BY DAMPING FORCES OF THE GYROSCOPE SUSPENSION. A FORMULA GIVING THE TRUE RUNOUT TIME OF THE GYROSCOPE IS PRESENTED, AND AN EXAMPLE ILLUSTRATING THE CALCULATION OF THE RUNOUT TIME IS CITED.

UNCLASSIFIED

USSR

UDC 632.951:595.786

NOVOZHILOV, K. V., SMIRNOVA, I. M., and GOLUBEV, T. I., All-Union
Institute for the Protection of Plants

"Possible Use of Organophosphorus Preparations in the Protection of Wheat
against Grain Cutworm and Wheat Thrips"

Moscow, Khimiya v Selskom Khozyaystve, Vol 9, No 3, 1971, pp 38-41

Abstract: Most effective in the protection of wheat against grain cutworm and wheat thrips were chlorophos, methylnitrophos, and metaphos. The effectiveness of these compounds against eggs of the above pests was established in the laboratory. Chlorophos and metaphos (at a concentration of 1.35%) were most effective against insect eggs in a series of field tests. Also determined, were chlorophos and methylnitrophos residues on mature wheat plants. Another test series was run to determine the effectiveness of these compounds at lower concentrations (0.5 and 1%) against caterpillars of the grain cutworm. Methylnitrophos and chlorophos were found to be most active against older caterpillars. It was concluded that both methylnitrophos and chlorophos can be safely used for grain to protect wheat against caterpillars of the grain cutworm.

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UDC: 621.396.6.002.72:621.757(088.8)

NOVOZHILOV, L. N., ZHELUDEV, Yu. G.

"A Device for Feeding Radio Parts Onto a Conveyer One at a Time"

USSR Author's Certificate No 282467, filed 27 Jun 69, published 18 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V328 P)

Translation: A device is proposed for feeding radio components onto a conveyer one at a time. The device contains an accumulator made in the form of a chute set at an angle, and an interceptor set in the lower section of this chute. To simplify the design of the device and improve its operational reliability, the interceptor is made in the form of two pairs of toothed racks with a gear between them engaged with a toothed push rod connected by a rod and thrust bearing to the conveyer belt.

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USSR

UDC 669.046.5

ROGULEV, B. A., SHMATKO, G. A., PRONICHKIN, A. A., GOLIKOV, Ye. S.,
NOVOZHILOV, N. G., BARMOTIN, I. P., SMIRNOV, Yy. D., and CHERNOV,
G. A.

"Electrical Steel Degassing by Argon Blowing in 100-ton Ladles"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIS) (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 264-265

Translation of Abstract: Data are presented on the use of porous refractory inserts for argon blowing in 100-ton ladles. The results of an investigation on degassing of ShKh15 steel produced with refining by liquid synthetic slag are presented (hydrogen content at blowing decreases by 23% and that of oxygen by 55-65%). Attention is paid to increasing the refining effect of synthetic slag at argon blowing, resulting in a higher (up to 95%) degree of desulfurization; in a rise of metal-slag distribution coefficient (up to 164) with a reduction in slag consumption and production cost; and lowering of steel contamination. Plastic properties of the degassed metal are significantly higher than those of the nondegassed metal. 1 figure, 2 tables.
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NOVOZHILOV, N.I.

Mesojet Research

LOW-LEVEL JET STREAMS IN THE BOUNDARY LAYER OF THE ATMOSPHERE
Article by Candidate of Geographic Sciences N. I. Novozhilov, Institute of Geography and
Observatory, Moscow, Meteorologiya i Gidrologiya, Kazan, No 5, 1973, sub-
mitted 21 August 1972, pp 105-110

UDC 551.55

This article contains a brief history of observations of
mesoscale and basic information is presented on the rela-
tion of the mesoscale to dangerous weather phenomena.

Such dangerous phenomena as thunderstorms, squalls, and disastrous
rains belong to the class of mesoscale phenomena. This class also includes
all other unprolonged phenomena not presenting any danger in the generally
accepted sense, such as, for example, low cloud banks. The existing macro-
scale synoptic method of analyzing atmospheric processes does not permit
the synoptician to consider mesoscale processes, the more so in that the procedure
for taking them into account still remains undeveloped, and therefore, fore-
casting the phenomena corresponding to them cannot be considered sufficiently
reliable. The nature of the mesoscale phenomena and the numerous methods of
calculating forecasts of these phenomena based primarily on physical intuition
have not been discovered and does not take it into account.

Thus, the conclusion stated in reference [1] that in order to predict
especially dangerous phenomena it is genuinely necessary to inventiate the
mesoscale processes and completely meet the requirements of science
and practice. The forecasting of dangerous phenomena considering their meso-
scale nature must be considered unconditionally highly prospective.

The preliminary discussion proposed by the authors of [1] in this
journal of different aspects of the mesoscale research program must
also be considered extremely necessary. The introduction of the mesoscale
of processes into forecasting practice (and this must be the result of dis-
cussion and development) is not possible without estimating the role
primarily of the mesoscale objects which are already known to specialists
and will be used in mesoscale practice.

In this article we shall present the basic information on the role of
the mesoscale wind jets or simply the mesoscale (in foreign terminology, the

¹In connection with the articles by V. A. Bagayev and B. Ye. Pestov, "The
State of the Art and Prospects for Operative Forecasting of Especially Dangerous
Hydro-meteorological Phenomena," published in Meteorologiya i Gidrologiya, No 6, 1972
²Low-level jet streams

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UDC: 534.84.001.24:621.635

YEGOROV, N. F. and NOVOZHILOV, S. YA.

"Calculating the Octave Noise Levels at the Intake of Centrifugal Ventilators"

Leningrad, Sudostroyeniye, No 5 (402), 1971, pp 32-33

Abstract: The authors present graphs for the dependence of the noise levels on the QH parameter where Q is the productivity of the ventilator and H is full pressure in kgs/m^2 . The graphs show that octave noise levels are uniquely related to the QH parameter. Noise level deviation from the mean does not exceed ± 5 db for a QH variation within the $3 \cdot 10^4 - 10^7$ $\text{kgs} \cdot \text{m/hr}$ limits. A formula is derived for calculating octave noise levels. Original article: one table, one figure, one formula, and four bibliographic entries.

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USSR

UDC 629.78:525.2+525.7

AZAROV, V. L., ~~NOVOZHILOV, V. I.~~, TAVRIZOV, G. A.

"The Possibility of a Unique Determination of the Electron Concentration on the Basis of Base Measurements"

V sb. Mat. metody modelir. v. kosmich. issled. (Mathematical Methods of Modeling in Space Research -- Collection of Works), Moscow, "Nauka", 1971, pp 66-72 (from RZh-62. Issledovaniye kosmicheskogo prostranstva, No. 4, Apr 72, Abstract No. 4.62.258)

Translation: The problem of determining the local electron concentration N_e in the solar corona with the aid of phase measurements is investigated. The following simplifying assumptions are introduced: (1) the distribution N_e is assumed to be spherically symmetrical, i.e., $N_e = N_e(r)$; (2) the orbits of the emitter and receiver lie in the same plane; (3) the approximation of geometrical optics is carried out for any trajectories of the probing beams (the fraction is assumed to be negligibly small); (4) the regular ionosphere contribution to the magnitude of the phase shift is evaluated integrally. It is shown that in this case the problem of determining $N_e(r)$ is single-valued and reduces to an inverse problem in potential theory. 8 ref. L. D.

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USSR

NOVOZHILOV, V. V.

"Connection Between Mathematical Expectation of Stress Tensors and Deformations in Statistically Isotropic, Uniform Elastic Bodies"

Moscow, Prikladnaya Matematika i Mekhanika, Vol 34, No 1, 1970, pp 67-74

Abstract: This paper deals with elastic solid bodies, following Hooke's Law, with the tensor of the elastic modulus considered to be a random stationary function of one coordinate with a given isotropic mathematical expectation. Among such bodies, with small deformations, are polycrystals with no predominant directions of anisotropy, and quasi-isotropic composite bodies. The most difficult aspect of the problem is the general case, in which the field of the stress tensors is not stationary; this paper considers this more general situation with no preliminary suppositions. The solution is set up in the form of a series satisfying the equilibrium equations of the body and the equations of continuity of the deformations. The coefficients of the series are essentially stationary tensors, independent of the form of the body and the external stresses on it. From this solution relations are obtained between the mathematical

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NOVOZHILOV, V. V., Prikladnaya Matematika i Mekhanika, Vol 34, No 1, 1970, pp 67-74

expectations of the stress tensors and the deformation, similar in form to the relations between these factors obtained in the multimoment elasticity theory. This paper is a sequel to an earlier one by the same author appearing in the book "Problems in Hydrodynamics and the Mechanics of Solid Media," published in Moscow by "Nauka," 1969, and, in part, amounts to a correction of the book's results.

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1/2 059 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CONNECTION BETWEEN MATHEMATICAL EXPECTATION OF STRESS TENSORS AND
DEFORMATIONS IN STATISTICALLY ISOTROPIC, UNIFORM ELASTIC BODIES -U-
AUTHOR--NOVOZHILOV, V.V.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, PRIKLADNAYA MATEMATIKA I MEKHANIKA, VOL 34, NO 1, 1970, PP
67-74
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS
TOPIC TAGS--ELASTICITY, HYDRODYNAMICS, METAL STRESS, ANISOTROPY, COMPOSITE
MATERIAL, METAL DEFORMATION, ELASTIC MODULUS, TENSOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1192 STEP NO--UR/0040/70/034/001/0067/0074
CIRC ACCESSION NO--AP0123163
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123163

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER DEALS WITH ELASTIC SOLID BODIES, FOLLOWING HOOKE'S LAW, WITH THE TENSOR OF THE ELASTIC MODULUS CONSIDERED TO BE A RANDOM STATIONARY FUNCTION OF ONE COORDINATE WITH A GIVEN ISOTROPIC MATHEMATICAL EXPECTATION. AMONG SUCH BODIES, WITH SMALL DEFORMATIONS, ARE POLYCRYSTALS WITH NO PREDOMINANT DIRECTIONS OF ANISOTROPY, AND QUASI ISOTROPIC COMPOSITE BODIES. THE MOST DIFFICULT ASPECT OF THE PROBLEM IS THE GENERAL CASE, IN WHICH THE FIELD OF THE STRESS TENSORS IS NOT STATIONARY; THIS PAPER CONSIDERS THIS MORE GENERAL SITUATION WITH NO PRELIMINARY SUPPOSITIONS. THE SOLUTION IS SET UP IN THE FORM OF A SERIES SATISFYING THE EQUILIBRIUM EQUATIONS OF THE BODY AND THE EQUATIONS OF CONTINUITY OF THE DEFORMATIONS. THE COEFFICIENTS OF THE SERIES ARE ESSENTIALLY STATIONARY TENSORS, INDEPENDENT OF THE FORM OF THE BODY AND THE EXTERNAL STRESSES ON IT. FROM THIS SOLUTION RELATIONS ARE OBTAINED BETWEEN THE MATHEMATICAL EXPECTATIONS OF THE STRESS TENSORS AND THE DEFORMATION, SIMILAR IN FORM TO THE RELATIONS BETWEEN THESE FACTORS OBTAINED IN THE MULTIMOMENT ELASTICITY THEORY. THIS PAPER IS A SEQUEL TO AN EARLIER ONE BY THE SAME AUTHOR APPEARING IN THE BOOK "PROBLEMS IN HYDRODYNAMICS AND THE MECHANICS OF SOLID MEDIA," PUBLISHED IN MOSCOW BY "NAUKA," 1969, AND, IN PART, AMOUNTS TO A CORRECTION OF THE BOOK'S RESULTS.

UNCLASSIFIED

UDC 591.557

USSR

NOVOZHILOVA, E. N., Institute of Biology, Komi Branch, Academy of Sciences
USSR, Syktyvkar

"Relationships Between Ectoparasites of the Common Red-Backed Vole and Inhabitants of Its Nest in the Middle Taiga of the Komi ASSR"

Leningrad, Parazitologiya, Vol 5, Vyp. No 4, Jul/Aug 71, pp 377-381

Abstract: Data of a seasonal study of the ectoparasites of *Clethrionomys glareolus* and of their nest inhabitants are presented. In particular, the relationships between host, ectoparasites, and nest inhabitants were studied based on biotopic and trophic (feeding) links. On the basis of biotopic relationships, all collected arthropods were assigned to one of three biological groups: host (parasites found only on the host), host-nest (parasites found either on the host or in the nest), and nest inhabitants (parasites encountered only in the nest). Based on their type of feeding, all inhabitants were grouped as: parasites, predators, saprophages, or phytophages. The variations in the occurrence of parasites during spring, summer, fall, and winter were studied and corresponding percentages and abundance indexes reported. The incidence of infections was also examined. Lice were found on the hosts during all seasons of the year. The season infectivity of

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NOVOZHILOVA, E. N., Parazitologiya, Vol 5, Vyp. No 4, Jul/Aug 71, pp 377-381

voles with lice was characterized by a summer peak. Besides lice, 161 species of *Ixodes trianguliceps* were collected on the voles. It was found that all stages of development of this species were active in the fall period when the maximum number of voles infected by larvae and nymphs was observed.

The host-next group was the most abundant group of parasites (with 21,529 collected specimen), most of them were ticks, the remainder fleas. Most species of this group were found on the hosts in winter and spring.

The nest group included moths and butterflies attracted by the plant materials of which the nests were made. These species (78 forms) were abundant all year around.

It was concluded from the quantitative data of this study that the distribution of Arthropoda on host and nest indicated that the common red-backed vole in the Komi ASSR does represent a danger in the epidemiological sense during winter as well as during summer.

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AA0052414

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 2/70

243463 CHARGING OF IGNITERS such as percussion igniters/primers/ for small-gauge sporting and hunting ammunition comprises vibrational treatment and subsequent pressing of the igniter composition filled in the igniter bodies and is modified, for ensuring long-lasting uniform composition and reliable performance, by introduction into the igniter body before the vibrational treatment of a slight amount of a lacquer such as a 1.5-2.0% cellulose nitrate lacquer. The so formed igniter paste is then subjected to vibration for approx. 35 secs. dried and pressed. 21.12.67,

as 1204981/40-23, KOROLEV, P.S. et al. (30.9.69)

Bul. 16/5.5.69. Class 78e, 72d, Int. Cl. C 06c, F 42b. ;

Korolev, P. S.; Kondyakova, Ye. V.; Novozhilova, I. I.;
Khludeyev, P. N.

19821045

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DIRECT FLUOROALKENYLATION. VI. IMPROVEMENT IN A METHOD FOR
SYNTHESIZING FLUOROALKENYL AMINES -U-
AUTHOR-(03)-SERGEYEV, A.P., NOVOZHILOVA, T.I., YAKUBOVICH, A.YA.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 747-54
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--FLUORINATED ORGANIC COMPOUND, AMINE, ORGANIC SYNTHESIS,
ORGANOLITHIUM COMPOUND, ZINC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1955 STEP NO--UR/0366/70/006/004/0747/0754
CIRC ACCESSION NO--AP0125544

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS CONDITIONS WERE WORKED OUT FOR THE PREPN. OF RNR PRIME1 R PRIME2 (WHERE R ARE F SUB2 C:CF, ClFC:CF, F SUB2 C:CF CF SUB2, FHC:CF, F SUB2 HCCF SUB2, ClFHCCF SUB2, F SUB3 CCHFCF SUB2, FBRHCCF SUB2, F SUB2 HCCO, ClFHCCO, F SUB3 CCHFCF SUB2, OR BRFHCCO, AND NR PRIME1 R PRIME2 ARE NBU SUB2, PIPERIDINO, MORPHOLINO, NME SUB2, NET SUB2, NACPH, NHPH, OR NMEPH). EXAMPLES: THE REACTION OF HNBU SUB2 WITH BULI IN HEXANE GAVE LINBU SUB2 WHICH WITHOUT ISOLATION WAS CONDENSED WITH F SUB2 C:CF SUB2 IN AN AUTOCLAVE AT 90-150DEGREES TO GIVE F SUB2 C:CFNBU SUB2. THE DISPERSION OF LI IN TETRAHYDROFURAN WAS TREATED WITH PHNHAC TO GIVE PHNACLI, WHICH WITHOUT ISOLATION WAS TREATED WITH CF SUB2:CF SUB2 TO GIVE CF SUB2:CFNACPH. THE DEHYDROGENATION OF BRFHCCFHACPH WITH POWD. ZN GAVE FHC:CFNACPH. THE HYDROLYSIS OF PHNACCF:CFX OR OF PHNACCF SUB2 CHEX (X IS H, F, OR CL) GAVE PHNHCOCHFX.

UNCLASSIFIED

USSR

UDC 536.46

MAKHVILADZE, G. M., NOVOZHULOV, B. V., Moscow

"Two-Dimensional Stability of Combustion of Condensed Systems"

Zhurnal Prikladnoy Mekhaniki i Tekhnicheskoy Fiziki, No 5, 1971, pp 51-59.

ABSTRACT: The problem of the stability of combustion of condensed systems is studied in the linear approximation with respect to curvature of the burning front. Two simple models of combustion are studied: gasless systems and a model of flameless combustion of a solid fuel. In the first gas, the combustion products, like the initial material, are condensed, while in the latter case the solid fuel is converted to a gas, in which no chemical reactions occur. Boundaries of stability of the stable combustion mode are found. It is demonstrated that gasless systems are less stable to two-dimensional perturbations than to one-dimensional perturbations. For the model of flameless combustion, the result depends on the relationship of heat physical constants of the initial material and the combustion products. The problem is studied of the influence of heat transfer on the one-dimensional stability of gasless compositions. Increasing heat liberation decreases the area of stability of combustion, one-dimensional instability developing earlier than disruption of combustion due to strong heat transfer to the walls.

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1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DYNAMICS OF DRUG RESISTANCE AND REDUCTION OF SENSITIVITY IN
MYCOBACTERIA ISOLATED FROM TUBERCULOSIS CASES -U-
AUTHOR--(02)-BELOGUROVA, V.P., NOVROTSKIY, V.V.
COUNTRY OF INFO--USSR
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 434-437
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DRUG RESISTANCE, MYCOBACTERIUM TUBERCULOSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/0144 STEP NO--UR/0297/70/015/005/0434/0437
CIRC ACCESSION NO--AP0114540
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114540

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DRUG RESISTANCE OF TUBERCULOSIS MYCOBACTERIA WAS DETERMINED IN DYNAMICS IN 302 PATIENTS WITH THE LUNG TUBERCULOSIS. AN INCREASE IN THE DRUG RESISTANCE ON ITS DETERMINATION OFTEN (74.0 PER CENT OF THE CASES) COINCIDED WITH A DETERIORATION IN THE PATIENT STATE. DECREASED RESISTANCE OR ABSENCE OF RESISTANT POPULATIONS OFTEN (79.1 PER CENT OF THE CASES) COINCIDED WITH AN IMPROVEMENT IN THE PATIENT STATE. SENSITIVITY REDUCTION OF TUBERCULOSIS MYCOBACTERIA WAS OBSERVED IN 6 PER CENT OF THE CASES CARRYING DRUG RESISTANT STRAINS. FACILITY: I. M. SECHENOV INSTITUTE FOR PHYSICAL METHODS OF TREATMENT AND MEDICAL CLIMATOLOGY, YALTA.

UNCLASSIFIED

USSR

UDC 632.95

NOVRUZOV, Kh., KUCHKAREV, A. B., ALOVITDINOV, A. B., and SARANKINA, S. A.

"Method of Preparing tert-Alkyl Phenols"

USSR Authors' Certificate No 259903, filed 17 Jul 68, published 7 May 70
(from RZh-Khimiya, No 1, 10 Jan 71, Abstract No 1N608P)

Translation: tert-Alkyl phenols which can be employed as herbicides and fungicides are obtained by the alkylation of PhOH with tertiary alcohols in the presence of polyphosphoric acid (I) at $\leq 200^\circ$. This increases the selectivity of the alkylation as compared with other acid catalysts. In a device with a DIN-STARK [transliterated from the Russian; possibly DEAN-STARK] cap, 0.6 mole tert-BuOH is added dropwise to 0.5 mole PhOH containing 1-3% I at $145-150^\circ$ with stirring. After heating for 15 min, the mixture is cooled, rinsed off from I with water, and 4-tert-BuC₆H₄OH is separated by distillation, yield 98%, melting point $96-8.5^\circ$ (heptane).

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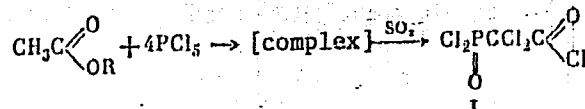
UDC 547.241+546.185'131

ISMAILOV, V. M., MOSKVA, V. V., NOVRUZOV, S. A., RAZUMOV, A. I., AKHMEDOV, SH. T., ZYKOVA, T. V., and SALAKHUTDINOV, R. A.

"Interaction of Phosphorus Pentachloride with Alkyl Acetates"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, p 212

Abstract: Under mild conditions (neutral solvent, 15-20°), the interaction of phosphorus pentachloride with alkyl acetates takes place with the formation of phosphorylation products, the nature of which depends on the reagent ratio. With a quadruple excess of phosphorus pentachloride, depending on the alkyl radical in the initial esters (R = Me, Et), the basic product can be the trichloranhydride of dichlorophosphonacetic acid (I)



With smaller amounts of phosphorus pentachloride, more complex mixtures of products of phosphorylation are formed in which the proportion of the pro-
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ISMAILOV, V. M., et al., Zhurnal Obshchey Khimii, Vol XLIII (GV), No 1, 1973, p 212

duct (I) decreases with a decrease in the phosphorus pentachloride taken. This indicates that product (I) is the final product of the presented interaction. The experimental procedure for obtaining the product and infrared and other data confirming its structure are presented.

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UDC 547.341 + 546.185.131

ISMAILOV, V. M., ZYKOVA, T. V., MOSKVA, V. V., NOVRUZOV, S. A., RAZUMOV, A. I.,
AKHMEDOV, SH. T., and SALAKHUTDINOV, R. A., Kazan' Chemical-Technological
Institute Imeni S. M. Kirov, and Azerbaydzhan State University Imeni
S. M. Kirov

"Derivatives of Substituted Vinylphosphonic Acids. XVI. Schematic for the
Phosphorylation of Alkylacetates With Phosphorus Pentachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 6, Jun 73, pp 1247-1250

Abstract: Reactions of phosphorus pentachloride with ethylacetate have been
investigated using different reagent ratios. It has been established that
the reaction products consist of β -chloro- β -ethoxyvinylphosphonic acid
dichlorides and phosphonodichloroacetic acid trichlorides. The first step in
this reaction is the replacement of the carbonyl oxygen atom with two chlorine
atoms yielding α , α -dichloroethylalkyl ether, which upon dehydrochlorination
yields α -chlorovinylalkyl ether. The latter reacts with PCl_5 yielding the
final products. On the basis of NMR data, it has been shown that the β -chloro-
 β -ethoxyvinylphosphonic acid dichloride forms in two geometric isomers.

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USSR

UDC 547.241 + 546.185.131

MOSKVA, V. V., ISMAILOV, V. M., NOVRUZOV, S. A., RAZUMOV, A. I., ZYKOVA, T. V., AKHMEDOV, Sh. T., and SALAKHUTDINOV, R. A., Kazan' Chemical Technological Institute imeni S. M. Kirov and Azerbaydzhan State University imeni S. M. Kirov

"Phosphorylation of α,α -Dichlorodiethyl Ether With Phosphorus Pentachloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 2085-2086

Abstract: The reaction of α,α -dichlorodiethyl ether with PCl_5 leads to the formation of a complex which upon decomposition yields dichlorophosphoacetic acid trichloride, and β -chloro- β -ethoxyvinylphosphonic acid dichloride in two geometric isomers.

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USSR

UDC 547.341

ISMAILOV, V. M., NOVBUZOV, S. A., KRASILOV, A. M., and AKHMEDOV, SH. T.
Azerbaijani State University Imeni S. M. Kirov

"Reaction of Phosphorus Pentachloride With Isoprene Hydrochlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, p 1197

Abstract: Studying the effect of two electron donating and one electron accepting substituents at the olefinic bond on the phosphorylation the reaction of phosphorus pentachloride with primary and tertiary isoprene hydrochlorides was studied. It has been shown that in both cases the reaction leads to the products of chlorination and phosphorylation. In the process 1-chloromethyl-2-chloro-2-methylpropylphosphonic acid dichloride was synthesized which could undergo dehydrochlorination after prolonged heating to yield 1-chloromethyl-2-methyl-propenyl-1-phosphonic acid dichloride.

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USSR

UDC: 621.377.622.12

NOVYSH, P. A.

"A Thyristorized Ring Commutator"

USSR Author's Certificate No 254566, filed 5 Jun 68, published 29 Jan 70
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11,
Nov 70, Abstract No 11A45 P)

Translation: This Author's Certificate introduces a thyristorized ring commutator with loads coupled by commutating capacitors. Each cell of the commutator contains an RC circuit connected by a resistor to the load of the preceding cell. Each cell is also connected by a capacitor to the input line, and by a centertap to the input of a thyristor through a semiconductor diode. The loads are connected in the cathode circuits of the thyristors, while the anodes of the input diodes are connected through resistors to a source of negative bias. As a result, pulses with steep positive leading edges are produced at the outputs of the commutator. A reversible register can be made by using additional analogous input circuits which select the next cell in reverse order. One illustration. T. R.

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USSR

NOWAKOWSKI, Ryszard

UDC: 577.4

"On the Product of Automaton Graphs"

Pr. nauk. Inst. matem. i fiz. teor. Pwr., 1973, No 5, pp 3-14 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V417 by I. Grunskiy)

Translation: An automaton graph G over the sets S, X, Y is understood to mean the graph of an automaton in which S, X, Y are sets of states, input and output signals respectively. The arc of a graph is the quadruplet (s_1, s_2, x, y) , where s_1 is the state of the graph, s_2 is the receiver of state s_1 with respect to input signal x , and y is the corresponding output signal. The sets S, X, Y are sets of sequences (in some alphabet L) of identical length for each set. Let ϕ_i be the operation of deleting the i -th letter in a sequence; the ij -product of arc (s_1, s_2, x, y) and s'_1, s'_2, x', y' is equal to $(s_1 s'_1, s_2 s'_2, x \phi_i(x'), y \phi_j(y'))$ if the i -th letter of sequence x' is equal to the j -th letter of sequence y' . Otherwise the ij -product is equal to the empty sequence. The ij -product of graphs G_1 and G_2 is defined as the paired ij -product of the arcs of graph G_1 and the arcs of graph G_2 . And so it is shown for example that

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USSR

NOWAKOWSKI, R., Pr. nauk. Inst. matem. i fiz. teor. PWr., 1973, No 5,
pp 3-14

the ij -product of automaton graphs is an automaton graph. The principal result: the necessary and sufficient condition is found which must be satisfied so that the ij -product of the strongly connected graph G_1 and graph G_2 will be a strongly connected graph.

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1/2 051
UNCLASSIFIED
TITLE--EFFECT OF TEMPERATURE AND A VARIABLE MAGNETIC FIELD ON THE MAGNETIC
STRUCTURE OF FILMS WITH STRIPE DOMAINS--U-
AUTHOR--(G2)--BRYUKHATOV, N.L., NOYEVA, M.R.
COUNTRY OF INFO--USSR
SOURCE--FIZ. METAL METALLOVED. 1970, 29(3), 645-6
DATE PUBLISHED--70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--TEMPERATURE EFFECT, MAGNETIC FIELD EFFECT, MAGNETIC STRUCTURE,
MAGNETIC DOMAIN STRUCTURE, FERROMAGNETIC FILM, NICKEL ALLOY, IRON, LASER
LUMINESCENCE, MAGNETIC HYSTERESIS, TRANSVERSE MAGNETIC FIELD
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1309
CIRC ACCESSION NO--AP0124960
STEP NO--UR/0126/70/029/003/0645/0646
UNCLASSIFIED

2/2 051

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124960

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PERIOD OF THE LATTICE PRODUCED BY THE FORMATION OF MAGNETIC DOMAINS IN A FERROMAGNETIC FILM (83PERCENT NI, 17PERCENT FE, THICKNESS 6500 ANGSTROM) WAS STUDIED DURING THERMAL CYCLING (MINUS 200DEGREES TO PLUS 200DEGREES) BY MEANS OF LASER LIGHT DIFFRACTION. THE BAND DOMAIN STRUCTURE REMAINED EVEN AFTER HEATING OR COOLING WITHIN ANY EXTERNAL FIELD, BUT THE PERIOD VARIED AND A HYSTERESIS OF THE DOMAIN STRUCTURE WAS FOUND. THE HYSTERESIS IN THIN FILMS WAS ALREADY MEASURABLE AT LOW TEMP. VARIATIONS. THE PERIOD WAS ALSO VARIED BY TRANSVERSE MAGNETIC FIELD. FACILITY: MOSK. INST. INZH. ZHELEZNODOROZH. TRANSP., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.385.633

NOYKIN, Yu. M.

"Investigation Of BWT-Phase Shifter (Summary Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 2, pp 82-83 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A150)

Translation: The results are presented of experimental investigations of models of a BWT-phase shifter for the centimeter band. It is shown that in models in which a parameter of the first stage was computed from the excitation condition of one slow wave of the space charge, the fewest pulsations of the output power were observed. The phase deviation of the microwave signal amounted to several tens of turns with an amplification up to 16 db. Out off of the output was investigated with low values of the drift tube voltage. The experimental data confirm the theoretical conclusions as to the possibility of realization of an excitation regime of a slow wave of space charge at any frequency of the working range. 3 ill. G.B.

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USSR

UDC 621.385.632

NOYKINA, T.K., ROVENSKIY, G.V.

"Experimental Investigation Of TWT With Electrostatic Focusing Of The Field Of A Rotating Electron Stream"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 12, pp 138-140 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4A175)

Translation: An experimental investigation is conducted of the passage of current in a traveling-wave tube with electrostatic focusing of the field of a rotating electron stream. The results of the investigation show good qualitative and quantitative agreement with the results of theoretical trajectory analysis conducted previously. 2 ref. Summary.

1/1

UDC 621.3.032.266

USSR

NOYKINA, T.K.

"Shaping Of Hollow Cylindrical Rotating Electron Stream By The Periodic Electrostatic Field Of A Double Helix"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 11, pp 142-145 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A149)

Translation: The shaping is considered of a hollow rotating stream by the periodic electrostatic field of a double helix. It is shown that with optimum values of the parameters and conditions of introduction into the system, the shaping system in question makes it possible to obtain a well-formed stream with pulsations of 2-5%.
6 ref. Summary.

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USSR

UDC 537.533.7:621.385.6

NOYKINA, T.K.

"Shaping Of Solid Cylindrical Electron Stream By The Periodic Electrostatic Fields Of A Double Helix (Summary Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue No 10, pp 109-110 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A153)

Translation: The problem is theoretically considered of shaping a solid cylindrical electron stream by the periodic electrostatic fields of a double helix in a nonparaxial approximation. The equations of motion of the boundary electrons obtained in parametric form are solved numerically on a computer. The effect on the trajectory of the electrons in the shaping system of the focusing parameter, the space charge parameter, the entrance angle and the comparative radius of the entrance is investigated. 2 ill. 1 ref. G.B.

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USSR

UDC 537.533.7:621.385.6

NOYKINA, T.K.

"Shaping Of A Hollow Cylindrical Electron Stream By The Electrostatic Field Of The System Double Helix--Coaxial Stub (Summary Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue No 10, pp 111-112 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A152)

Translation: The problem is considered of shaping a hollow cylindrical electron stream by the electrostatic fields of a system of double helix-stub in a non-paraxial approximation. Equations are obtained in parametric form for the motion of the boundary electrons. The effect on the quality of focusing of the parameters of focusing, the space charge, and the initial conditions of the introduction of a beam into the system, is investigated. 2 ill. 1 ref. G.B.

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USSR

UDC: 612.273-08:612.453.014.46:615.357.453

FEDOROVA, L. D., and NOZDRACHEV, A. D., Laboratory of Experimental Endocrinology, Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad

"The Effect of Hydrocortisone on the Excitability of the Cortical and Subcortical Structures Under the Influence of Hypoxia"

Moscow, Problemy Endokrinologii, Vol 16, No 6, Nov/Dec 70, pp 59-62

Abstract: Moderate and severe hypoxia was found to induce various changes in the primary responses of the acoustic cortex and posterior corpus quadrigeminum in rats. For example, hypoxia markedly increased the latent period while reducing the amplitude of both the positive and negative phases of the responses. Injection of hydrocortisone (0.2 to 5 mg) into hypoxic rats altered the nature of the primary responses in the cortical and subcortical structures, regardless of the degree of hypoxia. A 5-mg dose of the hormone was most effective in normalizing the rate of conduction of excitation and the functional state of the cortical neurons; 0.2 and 1 mg doses produced the same effect on the neurons of the posterior corpus quadrigeminum. Thus, the course of oxygen insufficiency evidently depends on adrenocortical function. Resistance to hypoxia can be markedly in-

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USSR

FEDOROVA, L. D., and NOZDRACHEV, A. D., Problemy Endokrinologii, Vol 16, No 6, Nov/Dec 70, pp 59-62

creased by artificially altering adrenocortical activity. The adaptive effects of hydrocortisone in hypoxia are probably due to the influence it exerts on the functional stability and lability of the nervous system.

1/2 016
UNCLASSIFIED
PROCESSING DATE--13NOV70
TITLE--DISTRIBUTION OF SYMPATHETIC ACTIVITY DURING UNCONDITIONED
INTERORECEPTOR REFLEXES -U-
AUTHOR--NOZDRACHEV, A.D.
COUNTRY OF INFO--USSR
SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHNOVA, 1970, VOL 56
NR 5, PP 711-717.
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SYMPATHETIC NERVOUS SYSTEM, ELECTROPHYSIOLOGY, REFLEX,
GENITOURINARY SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1173
STEP NO--UR/0239/70/056/005/0711/0717
CIRC ACCESSION NO--AP0126777
UNCLASSIFIED

2/2 016
CIRC ACCESSION NO--AP0126777

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ELECTRIC ACTIVITY CHANGES IN DIFFERENT PATHWAYS OF THE ABDOMINAL PART OF THE SYMPATHETIC NERVOUS SYSTEM WAS STUDIED COMPARATIVELY IN CONSCIOUS DOGS AFTER CHRONICAL IMPLANTATION OF ELECTRODES. VARIOUS STATES OF URINARY BLADDER FUNCTION WERE IMITATED WITH ITS DISTENTION, AND SOME WAYS OF REFLEX CONTROL OF THE BLADDER WERE REVEALED. THE FUNCTION OF THIS ORGAN MAY BE DUE TO OWN AND COUPLED REFLEXES IN DIFFERENT LEVELS. FACILITY: PAVLOV'S INSTITUTE OF PHYSIOLOGY, ACAD. SCI. USSR, LENINGRAD.

UNCLASSIFIED

UDC 613.2:664.8.037.53/.59

USSR

LESHCHENKO, P. D., Candidate of Medical Sciences, and NOZDRACHEV, S. I., Senior Scientific Associate Kiev Scientific Research Institute of Nutritional Hygiene, Kiev

"Changes in the Quality of Food Products Upon Prolonged Storage in a Frozen State"

Kiev, Vrachebnoye Delo, No 6, Jun 71, pp 137-138

Abstract: One can estimate the freshness of meat and meat and fish products on the basis of the amino acid content. Fresh meat contains the following free amino acids: cystine, lysine, histidine, arginine, aspartic acid, serine, glycine, glutamic acid, alanine, proline, tyrosine, valine, phenylalanine, and leucine. In meat that is not fresh after having been kept at 18-20°C, the content of all free amino acids is increased and threonine and methionine appear (A. D. Avshalumova, 1962). The content of free amino acids in a paste from krill (marine invertebrates) after storage for 1 yr. at minus 20° C has been compared with that in the freshly prepared product. The krill paste "Okean" prepared by the All Union Scientific Research Institute of Fishing and Oceanography (VNIRO) - cf. L. L. Lagunov et al, 1967 - that was in the form of frozen briquettes with a weight of 3-3.5 kg and had a temperature of minus 1/4

USSR

LESHCHENKO, P. D., and NOZDRACHEV, S. I., Vrachebnoye Delo, No 6, Jun 71,
pp 137-138

20°C, was kept for 1 year in the frozen state at the Kiev Cold Storage Combine. The quantitative and qualitative free amino acid composition of the paste was determined before and after cold storage. The defrosted fresh paste was a dense mass with the consistency of cottage cheese, a color similar to that of carrots, and a pleasant odor and taste that resembled those of canned crab meat. The paste contained all amino acids. On hydrolysis of the protein isolated from the paste, the presence of the following amino acids (in % by wt. of the pure protein) was established: cystine + cysteine 3.2, lysine 5.8, histidine 4.5, arginine 5.4, serine 9.0, glycine 7.8, glutamic acid 12.5, threonine 6.0, alanine 7.1, tyrosine 8.0, tryptophan 3.3, methionine 2.4, valine, 7.4, phenylalanine 3.8, leucine + isoleucine 11.2. Proline was present. Experimental rats receiving for three months a ration that contained the krill paste instead of casein showed an increase in body weight that was 30% higher than that of control rats. The content of free amino acids in the blood and liver tissue and the concentration and activity of some redox enzymes were determined in experimental rats. The level of free amino acids and enzymatic activity in the blood serum and liver were higher for rats on the synthetic feed ration (in which casein had been replaced with an amount

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USSR

LESHCHENKO, P. D., and NOZDRACHEV, S. I., Vrachebnoye Delo, No 6, Jun 71,
pp 137-138

of krill paste of the same caloric value) than for rats fed the synthetic ration with casein (Ye. F. Shamray, S. N. /sic! - S. N./Nozdrachev, and M. N. Polonskaya, 1969). The results of these experiments and data obtained earlier on protein metabolism and the activity of redox enzymes indicated that the paste proposed by VNIRO is a valuable food product. After storage of the paste for 1 year in the frozen state, its quality deteriorated in a pronounced manner from the organoleptic standpoint: the color changed from a bright carrot-red to a dull brown resembling that of rust; the odor was no longer agreeable and similar to that of canned crab meat, but resembled that of cod liver oil which had been kept too long; the moisture content decreased; and the taste became generally worse. The content of free amino acids in the paste decreased sharply as compared with that of the fresh products: that of cystine + cysteine, lysine, glutamic acid, threonine, tyrosine, and leucine + isoleucine by a factor of 1.2-1.5; that of histidine, arginine, aspartic acid, and serine by a factor of 1.7-2; and that of methionine, tryptophan, and phenylalanine by a factor of 2.5, 3.7, and 3.8, respectively. The content of valine remained unchanged, while that of alanine and glycine had a tendency to increase. Data on the decrease in content of free amino acids were

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USSR

LESHCHENKO, P. D., and NOZDRACHEV, S. I., Vrachebnoye Delo, No 6, Jun 71,
pp 137-138

statistically reliable ($P < 0.001$). Storage of the krill paste at minus
20°C for a year in the form of frozen briquettes led to a deterioration of its
quality accompanied by a considerable decrease in the content of free amino
acids.

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- 11 -

Food Technology

UDC 614.31:639.28]-074L[543.86:547.965]

USSR

IESHCHEKHO, P. D. and NOZDRACHEV, S. I., Kiev Scientific Research Institute of Nutritional Hygiene

"Change in the Content of Free Amino Acids in Krill Paste After Long Storage"

Moscow, Voprosy Pitaniya, No 1, 1971, pp 64-65

Abstract: Paste made from krill (a plankton crustacean) contains all the amino acids and is known to have a beneficial effect on the growth and development of experimental rats. Analysis of krill paste by paper chromatography after one year of refrigeration at -20°C revealed a marked deterioration in taste, odor, etc. and a sharp decrease in the content of free amino acids. The amount of cystine, lysine, glutamic acid, threonine, tyrosine, and leucine with isoleucine decreased after 12 months' storage by a factor of 1.2- to 1.5- that of histidine, arginine, aspartic acid, and serine by a factor of 1.7- to 2, that of methionine by a factor of 2.5- and that of tryptophan and phenylalanine by factors of 3.7- and 3.8-, respectively. Valine remained unchanged. Only alanine and glycine tended to increase. The decrease in the level of the free amino acids was statistically significant.

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USSR

UDC: Δ 539.1.073/.074

VLADIMIRSKIY, V. V., KOROL'KOV, I. Ya., NOVIKOVA, N. V., and NOZDRACHEV, V. N.

"A Method of Filmless Information Recording From Wire Spark Chambers in a Strong Magnetic Field"

Moscow, Pribery i Tekhnika Eksperimenta, No 5, 1973, pp 55-56

Abstract: The basic idea of this method is the recording of ultrasonic oscillations arising from the interaction of a current induced in a sonic conductor with an external magnetic field. The present article explores the use of the electrodynamic method, with an intense magnetic field, in the filmless information recording system, based on this idea, involving wire spark chambers with ferrite and magnetostriction information recording. The exploration was first conducted with models and then on a mock-up of the wire spark chamber measuring $1200 \times 650 \text{ mm}^2$, filled with a Ne+He mixture, in a magnetic field with an induction of 18 kilogauss. This method was found to have a high sensitivity and is capable of use with magnetic fields stronger than 1 kilooersted, a field intensity at which other methods are ineffective.

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1/2 015
UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--DETERMINATION OF THE COMPOSITION OF AN ISOPROPANOL CYCLOHEXANE
AZETROPIC SYSTEM IN A WIDE TEMPERATURE RANGE NEAR THE CRITICAL
AUTHOR--(03)--NCZDREV, V.F., GRECHKIN, V.I., NOVIKOV, G.I.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 819-20
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PROPANOL, CYCLOHEXANE, AZETROPE, PHASE EQUILIBRIUM, VAPOR
PRESSURE, FLUID VISCOSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1198

STEP NO--UR/0076/70/044/003/0819/0820

CIRC ACCESSION NO--AP0128616

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 015

CIRC ACCESSION NO--AP0128616

ABSTRACT/EXTRACT--(U) GP--0- ABSTRACT. THE AZEOTROPISM OF ISO,PROH,CYCLOHEXANE MIXTS. WAS INVESTIGATED AT VARIOUS COMPONENT RATIOS; VAPOR PRESSURES, AND TEMPS. UP TO THE CRIT. TEMP. THE PHASE EQUIL. WERE DETD. REFRACTOMETRICALLY; THE ULTRASONIC PROPAGATION RATE ρ BY THE OPTICAL DIFFRACTIONAL METHOD; THE VISCOSITY η IN CAPILLARY VISCOMETER, AND THE ρ IN SEALED AMPULS. AZEOTROPIC MIXTS. ARE FORMED IN THE SYSTEMS; THE AZEOTROPE COMPN. CHANGING WITH TEMP. THE ISO,PROH CONTENT IN THE AZEOTROPE INCREASES WITH TEMP. RISE TO A MAX. VALUE 80 WT. PERCENT NEAR THE CRIT. TEMP.; η OR AND ρ ARE MIN. AT CONC. RATIOS FOR WHICH THE INTERACTIONS BETWEEN THE COMPONENTS ARE WEAKEST. FACILITY: TUL. GCS. PEDAGOG. INST. IM.TOLSTOGO, TULA, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ACOUSTIC PROPERTIES OF AZEOTROPIC MIXTURES -U-
AUTHOR--(03)--GRECHKIN, V.I., NOVIKOV, G.I., NOZDREV, V.F.
COUNTRY OF INFO--USSR
SOURCE--AKUST. ZH. 1970, 16(1), 145-7
DATE PUBLISHED--70

N

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--ACOUSTIC PROPERTY, AZEOTROPIC MIXTURE, POPANOL, CYCLOHEXANOL,
ULTRASONIC VELOCITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2040

STEP NO--UR/0046/70/016/001/0145/0147

CIRC ACCESSION NO--AP0125628

UNCLASSIFIED

USSR

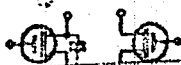
UDC: 581.325.65

KARMAZINSKIY, A. N., NOZDRIN, G. V., SHAGURIN, V. I., Moscow Engineering Physics Institute

"A Dynamic Element Based on MDS Transistors"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 6, Feb 71, Author's Certificate No 294253, Division H, filed 12 Feb 70, published 26 Jan 71, p 176

Translation: This Author's Certificate introduces a dynamic element based on MDS transistors. The element contains a storage capacitor and circuits for charging and discharging it, and also an auxiliary transistor. As a distinguishing feature of the patent, speed is increased and the area of the semiconductor plate which is used is reduced by basing the discharge circuit of the storage capacitor on one transistor with the sink of the auxiliary transistor connected to its gate.



2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125628

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TO SVENTOSLAVSKI, THE AZEOTROPIC PHENOMENON IS DUE TO THE DIMINISHED INTERACTION BETWEEN THE HETEROGENEOUS MOLS. COMPARED TO THAT BETWEEN THE MOLS. OF THE SAME KIND.

IT COULD BE SUPPOSED THAT THE HETEROGENEITY OF MOLS. WILL INFLUENCE IN AN ANALOGOUS WAY THE PHYS. PROPERTIES. THE VELOCITY OF THE PROPAGATION OF THE ULTRASOUND AND THE SHIFT VISCOSITY IN THE LIQ. PHASE OF THE

ISO. APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002202230005-5
SOLUTION OF THE PROBLEM OF THE MIN. VALUES OF THE PHYS. PROPERTIES OF THE MIXTURES. THE PROFOUND VARIATIONS OF THE COMPN. OF THE AZEOTROPE MIXTS. THE PROFOUND CORRELATION BETWEEN THE PHYS. PROPERTIES AND AZEOTROPISM WAS THUS PROVED.

FACILITY: TUL. GOS. PEDAGOG. INST. IM. TOLSTOGO, TULA, USSR.

UNCLASSIFIED

USSR

UDC: 621.391.837.32:681.84.083.84

NOZDRIN, V. V., PAN'SHIN, I. A., PODPALYY, Ye. A., STEPANOV, B. M., FABRIKOV, V. A., All-Union Scientific Research Institute of Opticophysical Measurements

"A Method of Increasing Contrast in Recording Optical Images on Strip-Domain Magnetic Tape"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 18, No 3, May/Jun 73, pp 217-218

Abstract: A method is described for increasing image contrast in thermal video recording on strip-domain magnetic tape. Before recording, the magnetic structure of the tape is oriented by an alternating magnetic field with amplitude exceeding the saturation field applied in the plane of the tape. The recording (domain-rotation) field is then applied perpendicular to the orientation of the initial domains. The film is heated by 0.03 μ s neodymium laser pulses. As a result, the domain structure is rotated through an angle proportional to the density of the irradiation energy. Contrast at low intensity is increased by an order of magnitude over conventional recording methods.

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UDC 621.315.592:546.19'681

USSR

KOVTONYUK, N. F., KURBATOV, L. N., NOZDRIN, V. V., ORLOV, V. S., RYABENKO, Ye. A., RASKIN, A. A., ROSTUNOVA, R. P., SOLOV'YEV, A. A., SEVAST'YANOV, V. G., UMYAGIN, A. M., SHALUMOV, B. Z., and SHAULOV, Yu. Kh.

"Some Problems of a Technological Formulation of the Process of Obtaining Epitaxial Films of Gallium Arsenide by the Gas Phase Method"

V sb. Protsessy rosta kristallov i plenok poluprovodn. (Procedures for the Growth of Semiconductor Crystals and Films -- Collection of Works), Novosibirsk, 1970, pp 341-350 (from RZh-Elektronika i yeye primeneniye, No 7, July 1971, Abstract No 7B130)

Translation: The epitaxial films of GaAs obtained were produced by the gas phase method with the use of AsH_3 , Ga, and HCl. GaAs wafers served as substrates. The surface of a wafer was subjected to chemical--mechanical processing and etching with H_2SO_4 : H_2O_2 : H_2O in the ratio 3: 1: 1. Synthesis of the GaAs was conducted in a reaction apparatus which was thoroughly scavenged by H_2 and etched by HCl at $950^\circ C$ for 30 minutes. After cooling, the Ga was loaded into the chamber. The chamber was heated to a temperature of $850^\circ C$ for activation of the Ga surface. After reduction of the temperature to $100-150^\circ C$, the GaAs substrate was introduced into the reaction zone. After heating the Ga area and the GaAs area, etching of the GaS was performed by HCl gas in a stream of AsH_3 and H_2 . The films were doped by Se.

USSR

KOVTONYUK, N. F., et al., Protsessy rosta kristallov i plenok poluprovodn.
(Procedures for the Growth of Semiconductor Crystals and Films -- Collection
of Works), Novosibirsk, 1970, pp 341-350 (from RZh-Elektronika i yeye
primeneniye, No 7, July 1971, Abstract No 7B130)

The best specimens of film had n-type conductivity and a mobility of 4000--5000
 $\text{cm}^2/\text{v}.\text{sec}$. Films doped by Se had a concentration of $5 \cdot 10^{17}$ -- $5 \cdot 10^{18}$ at/cm³ and
a mobility of 2000 $\text{cm}^2/\text{v}.\text{sec}$. 8 ref. V.B.

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NOZDRINA, G.

"How to Reequip a Lead Container"

Moscow, Voennoye Znaniya, No 5, May 72, signed to press 12 Apr 72, p 22

Translation: The radioactive contamination of food, water and fodder is controlled both under field conditions and in special radiometric laboratories where samples of products are received for analysis. In order to determine their suitability for further use, it is necessary to measure the specific contamination of the samples and to determine the age of nuclear explosion products.

The difficulty in determining contamination is due to the fact that nuclear explosion products represent a complex mixture of radioactive isotopes whose composition depends on the type of nuclear ammunition and also on the time that elapses from the moment of explosion. Therefore, the methods of determining the specific activity and age of nuclear explosion products should be sufficiently improved and accurate.

The specific activity of the samples can be determined by two methods, i.e., relative and absolute. At the same time, thin-layer or thick-layer preparations are used.

The method of relative measurements used in the RLU-1 radiometric laboratory equipped with the STS-6 counter has a number of shortcomings which

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NOZDRINA, G., *Voyennyye Znaniya*, No 5, May 72, signed to press 12 Apr 72, p 22

make it impossible to give an objective evaluation of the suitability of food, water, and fodder for use. This method does not take into account the fact that the degree of a sample's contamination depends on the amount of radioactive substances, as well as on the age of nuclear explosion products, which is determined by the beta-ray spectrum. The spectrum changes continuously. However, samples with a standard strontium-yttrium preparation, whose beta-ray spectrum does not change in the course of time, are compared. Such a violation of the basic principle of relative measurements leads to intolerably great uncontrollable errors. The absolute method of determining the specific activity of thick-layer preparations is much more accurate.

The preparation for investigation should have a thickness whose further increase will not lead to a rise in the yield of beta-particles from its surface. The methods of preparing the preparations and the formulas for calculating their specific activity are known to specialists and are not examined here. This article reports on how to reequip the DS-25 lead housing, which is part of the RLU-1 outfit, in order to use an improved, i.e., the absolute method with the use of a thick-layer preparation.

The lead housing is changed from a horizontal to a vertical position (fig. 1). The STS-6 counter is replaced with the MST-17 counter and is secured inside the housing by means of clamping plates on a plexiglas stand

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NOZDRINA, G., Voyennyye Znaniya, No 5, May 72, signed to press 12 Apr 72, p 22

designed for an end-window counter. The stand is 80 mm long, 56 mm wide, and 42 mm high. The stand has two slots, an upper and lower. The lower is for the holder of a bath with a sample, and the upper, for the holder of an aluminum filter. The aluminum filter can also be installed in the slot without the holder if the dimensions permit.

Some soldering is required in order to supply high voltage to the MST-17 counter within the DS-25 lead housing (fig. 2). To solder the positive lead, four screws are loosened and the cover for the contacts of the BGS connection is removed. The positive lead is disconnected from the pin-type contact (1 in fig. 3) and soldered onto the female contact (2 in Fig. 4).

Then the side door of the lead house is opened (fig. 2). The 18-cm long positive wire with a cap is soldered onto the lug (2 in fig. 2). Screw (3) is loosened, the 20-cm long negative wire (4) is connected to the cap, and the screw is tightened again.

After the BGS is connected to the lead house and the MST-17 counter is connected to the conductors (1 and 4 in fig. 2), the installation's operation is checked. For this purpose, a control strontium-90 preparation is placed under the counter and the plateau slope of its counting response is determined (the counter is considered good if the plateau width is no less than 100 v and the slope does not exceed several percent 100 v).

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NOZDRINA, G., *Voyennyye Znaniya*, No 5, May 72, signed to press 12 Apr 72, p 22

The general view of the reequipped lead housing with a stand for the placement of the MST-17 end-window counter, the preparation, and the filter is shown in fig. 1.

The equipment and devices which are part of the BLU-1 outfit can be used for taking samples and for their preliminary preparation. In order to grind food products (sugar, peas, and groats) more efficiently, a coffee mill is used, each time being decontaminated inside.

A special press is used for the preparation of 12-mm high baths with a diameter of 40 mm from 0.1 mm-thick aluminum. Baths produced by industry can be used.

When the activity of a sample is determined, aluminum filters of a varying thickness, i.e., from 30 to 100 mg/cm² are needed. To determine the age of nuclear explosion products, it is necessary to have a 260 mg/cm² (1 mm) thick aluminum filter.

The recommendations on reequipping a lead housing presented make it possible to determine the specific activity of food and water samples by an improved and more sensitive method of absolute measurements which, moreover, greatly shortens the time of measuring samples.

4/4

1/2 014
UNCLASSIFIED
PROCESSING DATE--16OCT70
TITLE--CHARACTER OF CHEMICAL BONDS IN A VANADYL COMPLEX FOR SOME OXIDE
GLASSES STUDIED FROM PARAMAGNETIC RESONANCE AND ELECTRON ABSORPTION
AUTHOR--(05)-BOGOMOLOVA, L.D., DOLGOLENKO, T.F., LAZUKIN, V.N., NOZORINA,
YE.N., PETROVYKH, N.V.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 54-7

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--VANADIUM COMPLEX, OXIDE GLASS, EPR SPECTRUM, MOLECULAR
ORBITAL, GLASS COMPOSITION, CHEMICAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0505

STEP NO--UR/0020/70/191/001/0054/0057

CIRC ACCESSION NO--AT0113396

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 014

CIRC ACCESSION NO--AT0113396
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE ELECTRON ABSORPTION AND PMR SPECTRA OF VO PRIME2 POSITIVE IN B SUB2 O SUB3 NEGATIVE BAO MINUS V SUB2 O SUB5, SIO SUB2 MINUS BAO MINUS V SUB2 O SUB5, AND P SUB2 O SUB5 MINUS BAO MINUS V SUB2 O SUB5 GLASSES (CONTG. 1-5 PERCENT V SUB2 O SUB5) WERE MEASURED AT LIQ.-N TEMPS. AS A FUNCTION OF THE GLASS COMPN. THE NEW EXPTL. DATA AND THE EARLIER PUBLISHED DATA ON THE EPR SPECTRA OF V GLASSES (B., ET AL. 1967) WERE INTERPRETED WITHIN THE MO THEORY. THE RESULTS SUGGESTS THAT IN THE GLASSES STUDIED, VANADYL FORMS C SUB4V TYPE SYMMETRY COMPLEXES AND THE UNPAIRED ELECTRON IS LOCALIZED ON THE B SUB2 G TYPE ORBITAL, CONSTRUCTED FROM 3D SUBXY ORBITAL OF V PRIME4 POSITIVE AND 2RHO ORBITALS OF O LIGANDS. THE COEFFS. BETA SUB1 AND BETA SUB1 PRIME AT THE ED SUBXY NEGATIVE AND 2RHO ORBITALS, RESP., ARE DETD. BY THE DEGREE OF LOCALIZATION OF THE UNPAIRED ELECTRON ON THE RESP. ORBITALS AND, THEREFORE, CHARACTERIZE THE PI BONDING IN THE EQUATORIAL PLANE OF THE COMPLEX. ANALOGOUS, B SUB1 EPSILON ORBITAL OF THE COMPLEX IS CONSTRUCTED FROM 3D SUBX PRIME2 MINUS SUBY PRIME2 ORBITALS OF V PRIME4 POSITIVE AND RHO ORBITALS OF THE VANADYL O AND THE CORRESPONDING COEFFS. (ALPHA AND GAMMA) AT THE D FUNCTIONS CHARACTERIZE THE SIGMA BONDING IN THE EQUATORIAL PLANE AND THE PI BONDING OF V WITH THE VANADYL O. EVALUATION OF THE PARAMETERS OF CHEM. BONDS BY THE MO LCAO METHOD CONFIRMED THAT THE COVALENCY OF PI AND SIGMA BONDS IN THE V COMPLEX INCREASES WITH THE AMT. OF THE GLASS FORMING AGENT IN THE ORDER P SUB2 O SUB5 YIELDS SIO SUB2 YIELDS B SUB2 O SUB3.

FACILITY: MOSK. GOS.

UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 66.063.5

KOSTIKOV, V. I., MAURAKH, M. A., and NOZHKINA, A. V., Moscow Institute of Steel and Alloys

"Wetting of Diamonds and Graphite by Liquid Alloys of Iron With Titanium"

Kiev, Poroshkovaya Metallurgiya, No 1 (97), Jan 71, pp 79-82

Abstract: A study was made of the wetting of single diamond crystals and plates cut from them along the (100) facet and pyrolytic graphite. The test procedures are described and the results of the experiments are presented. The tendency of liquid iron and its alloys with titanium toward wetting diamonds is higher for the (100) facet and lower for the (111) natural facet. Pyrographite occupies an intermediate position. Introduction of more than 30% titanium into the iron improves wettability of diamonds and graphite by it. The magnitude of the contact angle of pure iron in pyrographite is 50° , and that of iron alloy with 3.9% C is about 110° . The energy of adhesion of iron to diamonds along the (100) facet is $3,160 \text{ ergs/cm}^2$, and on the (111) facet, $2,590 \text{ ergs/cm}^2$. The energy of adhesion to pyrographite is $2,960 \text{ ergs/cm}^2$. It was found that titanium increases the energy of adhesion of iron to graphite and diamonds.

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USSR

KOSTIKOV, V. I., et al, Poroshkovaya Metallurgiya, No 1 (97), Jan 71, pp 79-82

Graphs are presented showing the wetting contact angle of diamonds and graphite by FeTi alloys as a function of titanium content, the variation of the wetting contact angle of diamonds and pyrographite by iron as a function of contact time for both the (100) and (111) facets, and the spreading of Fe-Ti alloys over diamonds and pyrographite as a function of Ti content.

2/2

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Acc. Nr:

AT0047480

Abstracting Service:
GEOPHYSICAL ABST.

5/70

Ref. Code:

UR0020

91871k New facts on the oxidation and selfignition of alkane-air mixtures. Lisichkin, A. M.; Nozhkina, L. A.; Shtern, V. Ya. (Inst. Neftekhim. Sin. im. Topchieva, Moscow, USSR). Dokl. Akad. Nauk SSSR 1970, 190(2), 380-2 [Phys Chem] (Russ). Oxidn. and autoignition of n-alkane-air mixts. was studied at static conditions at 250-650°/0.1-15 atm. abs. In the center of a stainless steel reaction vessel, was arranged a turbulator with 112 1-1.2-mm diam. holes. The gas mixt. was introduced into the reactor with a high velocity. The anal. of the oxidn. and spontaneous ignition processes was made based on the pressure, temp., luminosity, and compn. of the reaction products. Several series of expts. differing in the methods of introduction of the gas mixt. were made. When the time of warming of the gas mixts. to the temp. of the walls of the reaction vessel is sharply reduced, a low-temp. oxidn. process (without formation of a cold flame) and low-temp. self-ignition of the gas mixt. (similar to the one-stage hot explosion) can be achieved.

A. G. Streng

REEL/FRAME
19791036

UDC 616.981.71-022.395.42-036.21(571.51)

USSR

SHAYMAN, M. S., VOSHCHAKINA, N. V., NOZIK, S. I., PATS, S. I., and KRASOV-SKIY, F. V., Omsk Institute of Infections with Natural Foci and Krasnoyarsk Kray Sanitary Epidemiological Station

"Data Pertaining to the Epidemiology of North Asian Tickborne Rickettsiosis in Krasnoyarsk Kray in 1936-1967"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, p 711

Abstract: North Asian tickborne rickettsiosis which was initially identified in Krasnoyarsk Kray in 1936, still occurred there in 1967, with a distribution exceeding that in any other part of the USSR. From 1936 to 1967, 10,634 cases of this disease were recorded in Krasnoyarsk Kray. The highest incidence of the disease was in the 30 south-eastern rayons. Children younger than 16 yrs were mainly affected (61.3% of cases). The principal vector of the disease was *D. nuttalli*. The agent (*D. sibiricus rickettsiae*) was isolated for the first time from *I. persulcatus* and *H. concinna*. The most effective methods of detecting *D. sibiricus rickettsiae* in ticks were by immunofluorescence tests and tissue culture methods. Comparison of results obtained by various test methods showed that epidemiological data pertaining to exposure of the popula-

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USSR

SHAYMAN, M. S., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
No 4, Apr 71, pp 7-11

tion to the infection could be best obtained by means of skin allergy tests.
It was established that a considerable degree of latent immunity existed
in the population. Absence of latent immunity was one of the reasons for the
predominant occurrence of the disease among children.

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1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--NEUTRON DIFFRACTION STUDY OF AN ALUMINUM AND LITHIUM ALLOY -U-
AUTHOR-(04)-NOZIK, YU.Z., LIPIN, YU.V., MAKSIMYUK, P.A., MIKHALKO, V.D.
COUNTRY OF INFO--USSR
SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. ZINAT. SER. 1970, (1), 88-90
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--LITHIUM ALLOY, ALUMINUM ALLOY, MODEL, CRYSTAL STRUCTURE
ANALYSIS, NEUTRON DIFFRACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0609 STEP NO--UR/0371/70/000/001/0088/0090
CIRC ACCESSION NO--AP0105592
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105592

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN AL-LI ALLOY CONTG. 4 WT. PERCENT LI (AL SUBO TIMES 84 LI SUB O TIMES 16) WAS INVESTIGATED BY NEUTRON DIFFRACTION AND SHOWED, BESIDES THE BASIC LINES CORRESPONDING TO THE PURE AL STRUCTURE, 2 SUPERSTRUCTURE LINES, (100) AND (110), CORRESPONDING TO THE LI ATOMS. THE INTERPRETATION OF THE (100) AND (110) PEAKS LEADS TO 2 MODELS OF LI AT. ARRANGEMENT IN THE AL STRUCTURE: AN OCTAHEDRAL MODEL WITH 111 OVER 222 COORDINATES AND A TETRAHEDRAL MODEL WITH 111 OVER 444 COORDINATES. THE LI ATOMS OCCUPY THE OCTAHEDRAL POSITIONS IN THE FCC. LATTICE OF AL. THE INSUFFICIENT SHARPNESS OF THE (100) AND (110) PEAK INTENSITIES, DUE TO THE SMALL AMT. OF LI IN THE ALLOY, DOES NOT ALLOW THE AMT. OF LI IN THE OCTAHEDRAL POSITION TO BE CALCD., AND THUS, NO INFORMATION ON THE SUBSTITUTION OF LI ATOMS IN THE AL STRUCTURE COULD BE OBTAINED.

UNCLASSIFIED

Acc. Nr:

AP0048486

Abstracting Service:
CHEMICAL ABST. *570*

Ref. Code:

UB0070

N

104832a Third-order elastic constants for polycrystals consisting of cubic single crystals. Nran'yan, A. A. (Inst. Fiz. Issled., Erevan, USSR). *Kristallografiya* 1970, 15(1), 86-90 (Russ). Math. considerations are presented tending to establish 3rd order elastic const. for polycrystals (e.g. for NaCl, KBr, and KF). According to the Reuss method, calcns. were initially made of the 3rd order elasticity modulus of the polycrystal, and then of 3rd order elastic const. The mean value of tensor invariants of elastic moduli of single- and polycrystals was calcd. Anal. of the results obtained, and of known literature data, showed the effectiveness of establishing const. elastic polycrystals as arithmetic mean values computed by the Reuss and Voigt methods.

J. Pabis-Machej

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REEL/FRAME
19800194

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USSR

UDC 619.941:582.28

NTUKSHA, Yu. P., (Reviewer), State Public Library imeni M. Ye. Saltykov-Schedrin Povrezhdeniye promyshlennykh materialov i izdeliy pod vosdeystviyem mikroorganizmov. Spravochnik (Damage Done to Commercial Materials and Products by Microorganisms. A Handbook), compiled by T. S. Bobkova, I. V. Zlochevskaya, A. K. Rudakova, and L. N. Chekunova, Moscow University Publishing House, 1971, 148 pp

Leningrad, Mikologiya i Fitopatologiya, No 6, 1971, pp 536-537

Abstract: This handbook summarizes information drawn from 125 Soviet and 186 foreign sources on microbial damage, means of protection, and methods of testing the resistance of a wide range of materials: metals, paints, fuel, rubber, plastics, hides, textiles, paper, books, building materials, optical instruments, etc. Concise data synthesize everything known about each material under both temperate zone and tropical conditions. This is done for both the final and intermediate products. The chemical and in some cases manufacturer's names of the compounds recommended for protective purposes facilitate the use of the book. All those concerned with microbial degradation of materials or interested in the microorganisms responsible will find the handbook an important and useful aid.

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NUDEL', A. M.

JPRS 56286

16 June 1972

UDC: 621.1 8.152

PURIFICATION OF CONDENSATE WITH SEPARATELY FUNCTIONING
ION-EXCHANGER FILTERS AT THE VK-50 ATOMIC ELECTRIC POWER PLANT

[Article by Candidates of Technical Sciences A.M. Nudel', V.F. Meshkov,
and Yu. V. Chereckikh, Engineer L.P. Soshina, Candidate of Chemical
Sciences A.I. Zheleznin, and engineers Yu. F. Naronkin, L.N. Rozhdetsven-
skaya, and L.N. Ivanovskiy, Moscow, *Industriyetsika*, Russia, No 3, May
1972, pp 13-15]

Experience in the operation of thermal and atomic electric power
plants has shown that purification of the entire stream of condensate of
dissolved and mechanical impurities is a necessary condition for reliable
functioning of the plant [1,2].

To investigate the functioning of ion-exchange resins in the purifi-
cation of the condensate of an atomic electric power plant from dissolved
and suspended impurities, and also to verify the design of individual ele-
ments of an ion-exchanger filter, a seal-works installation with separately
functioning ion-exchanger filters (two meters in diameter), with N-cation
exchanger and G-anion-exchanger resins, connected in series, was installed
and tested on the bypass of the condensate loop of the VK-50 Atomic Electric
Power Plant.

The filters were identical in their design. The drainage and dis-
tribution systems of the filters were of the silt-tube type. The silt on
the wall of the system were formed of a coil of circular wire with a dia-
meter of 0.8 mm. The coil was so made that the width of the gap was 0.1 mm
in the middle of the lower system and 0.4 mm in those of the upper system.

During the time the filters functioned the following thermodynamic
indicators were monitored (the flow rate of the condensate, the total re-
sistance of the filters, and the resistance of the drainage systems) and
also the physicochemical composition of the condensate (the pH value, elec-
trical conductivity, hardness, the content of elements of corrosion products
and the total base-activity). The chemical composition of the condensate
was stable during the entire course of functioning of the filters, except
during the start-up period of the reactor (0.02-0.04 mg/liter of Fe (total))

- 1 -

[1 - USSR - X]

USSR

UDC: 517.9

KREYN, M. G., NUDEL'MAN, P. Ya., Odessa Engineering Construction Institute,
Odessa Electrical Engineering Institute of Communications

"Concerning Certain New Problems for Functions of the Hardy Class, and Also
Continual Families of Functions With Double Orthogonality"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 3, 21 Mar 73, pp 537-540

Abstract: Let $L_2(a, b)$, $-\infty \leq a < b \leq \infty$, denote the real Hilbert space consisting of all real functions of the complex space $L_2(a, b)$. Let \mathcal{F} denote the non-normed Fourier-Plancherel operator in $L_2(-\infty, \infty)$, more exactly for $f \in L_2(-\infty, \infty)$,

$$(\mathcal{F}f)(\omega) = \int_{-\infty}^{\infty} e^{-i\omega t} f(t) dt \left(= \text{l.i.m.}_{N' \rightarrow \infty} \int_{-N'}^{N'} e^{-i\omega t} f(t) dt \right).$$

Any $L_2(a, b)$ (when at least one of the numbers a, b is finite) is treated as a subspace in $L_2(-\infty, \infty)$ made up of appropriately truncated functions. The notation \mathcal{H} (\mathcal{H}) denotes a subspace in $L_2(-\infty, \infty)$ onto which operator \mathcal{F} maps $L_2(0, \infty)$ ($L_2(0, \infty)$). Thus $F \in \mathcal{H}$ is a member of \mathcal{H} only when F is Hermitian: i. e., $F(-\omega) = \overline{F(\omega)}$ almost everywhere on the axis.

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USSR

KREYN, M. G., NUDEL'MAN, P. Ya., Doklady Akademii Nauk SSSR, Vol 209, No 3, 21 Mar 73, pp 537-540

The authors consider the following problem: Some Hermitian function $F \in L_2(-1, 1)$ is given together with the number ϵ ($0 < \epsilon \leq \|F\|/2\pi$). It is required to find $g \in L_2(0, \infty)$ having the least norm $\|g\|$ under the condition that

$$\frac{1}{2\pi} \int_{-1}^1 |F(\omega) - G(\omega)|^2 d\omega \leq \epsilon^2, \quad G = \mathcal{F}(g).$$

The problem has a unique solution determined from the integral equation

$$\mu g(t) + \int_0^\infty \frac{\sin(t-s)}{\pi(t-s)} g(s) ds = f(t), \quad 0 \leq t < \infty,$$

where $f = \mathcal{F}^{-1}(F)$, and $\mu = \mu(\epsilon)$ is some positive function of the argument ϵ . This function approaches zero monotonically when $\epsilon \downarrow 0$ and, moreover, $\mu = 1/2\pi \epsilon / \|F\| + O(\epsilon^2)$.

The derivations in the paper lean heavily on the results of Koppelman and Pincus (Math. Zs., 71, H. 4, 399, 1959).

2/2

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1/2 029 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INCREASING THE WEAR RESISTANCE OF VULCANIZED RUBBER -U-
AUTHOR--(04)-NOVIKOV, A.S., NUDELMAN, Z.N., SHALYGIN, G.F., PROKUDIN, I.P.
COUNTRY OF INFO--USSR
SOURCE--GER. 1,694,680
DATE PUBLISHED--21MAY70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--WEAR RESISTANCE, CHLOROPRENE, ACRYLONITRILE, BUTADIENE,
COPOLYMER, SYNTHETIC RUBBER, ANTIMONY FLUORIDE, FLUORINATION, CHEMICAL
PATENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--3002/1541 STEP NO--GY/0000/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126936
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 029

CIRC ACCESSION NO--AA0128936

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WEAR RESISTANCE OF VULCANIZED
ACRYLONITRILE, BUTADIENE COPOLYMERS AND CHLOROPRENE IS IMPROVED BY
FLUORINATING THE RUBBER SURFACE WITH ME SUB2 CO SOLNS. OF SBF SUB5 UNDER
PRESSURE AT 50-100DEGREES FOR 5-20 MIN.
RESEARCH INSTITUTE OF THE RUBBER INDUSTRY.

FACILITY: SCIENTIFIC

UNCLASSIFIED

Acc. Nr: **AP0049806** Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

4R0138

N

101590j Interaction of alkoxysilanes with Aerosil. Gusein-Zade, A. F.; Nudel'man, Z. N.; Garber, A. M.; Galil-Ogly, F. A.; Rostovtseva, A. I. (Nauch.-Issled. Inst. Rezin. Prom., Moscow, USSR). *Kauch. Rezina* 1970, 29(1), 6-8 (Russ). The reaction of $\text{Me}_2\text{Si}(\text{OMe})_2$ (I) with Aerosil (II) was studied by ir spectroscopy at $2600\text{--}3000\text{ cm}^{-1}$. The reaction of I with II involved condensation with SiOH groups of II to give MeOH (as an intermediate by-product), which further condensed with SiOH groups to give SiOMe groups. I inhibited the crosslinking of rubber; however, due to the formation of SiOMe groups on the surface of II, some crosslinking did occur. CKJR

REEL/FRAME
19801728

7

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PREPARATION OF PATIENTS WITH DIABETES MELLITUS FOR CATARACT
EXTRACTION, PECULIARITIES OF PRE OPERATIVE TREATMENT AND INSULIN THERAPY
AUTHOR--NUDGA, I.I. N
COUNTRY OF INFO--USSR
SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 77-79
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIABETES MELLITUS, CATARACT, INSULIN, SURGERY, BLOOD VESSEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0110 STEP NO--UR/0357/70/000/003/0077/0079
CIRC ACCESSION NO--AP0129366
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129366

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PATHOLOGICALLY CHANGED VASCULAR WALLS AND FRESHLY FORMED VESSELS, ALONG WITH THE DEVELOPMENT OF HYPOGLYCEMIC STATE IN THE POSTOPERATIVE PERIOD SHOULD BE CONSIDERED AS BASIC CAUSATIVE FACTORS RESPONSIBLE FOR FREQUENT VASCULAR COMPLICATIONS ARISING AFTER CATARACT EXTRACTION IN DIABETIC PATIENTS. SPECIAL MEDICAMENTOUS PRE TREATMENT PRIOR TO SURGERY AND MODIFIED PROCEFURES OF INSULIN THERAPY IN THE POST OPERATIVE PERIOD ARE REQUIRED TO PREVENT VASCULAR COMPLICATIONS. THE AUTHOR OFFER 228 CASE REPORTS OF PATIENTS IN 60 OF WHOM THE PRECENTAGE OF VASCULAR COMPLICATIONS WAS BROUGHT FROM 60.7 DOWN TO 28.3 THANKS TO SPECIAL PRE TREATMENT FOR SURGERY AND MEASURES PREVENTING DEVELOPMENT OF HYPOGLYCEMIA IN THE POST OPERATIVE PERIOD. FACILITY: KAFEDRA QFTAL'MOLOGII TSENTRAL'NOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY, MOSKVA.

UNCLASSIFIED

Physiology

USSR

UDC 612.833.81+612.66

NUDMAN, S. I., Institute of Physiology imeni I. P. Pavlov, USSR Academy of Sciences, Leningrad

"Changes in Higher Nervous Functions in Rats Under the Influence of Acceleration in Ontogenesis"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nostinimeni I. P. Pavlov, Vol 21, No 2, 1971, pp 502-508

Abstract: Rats aged 25 days and 1.5, 2, 6-12, and 18 months were used in experiments with programmed control to determine the effect of 0.6 g and 10 g accelerations on the course of the development of a motor-defense conditioned reflex. The rats were conditioned by an electric bell sounding at one-minute intervals. The unconditioned stimulus was a 20-volt electric current applied every sixth second during the conditioning process. The reflex was in the form of an escape reaction to either side of a T-shaped labyrinth from the labyrinth center to which the electric current was applied. Reaction to acceleration at 0.6 g and 10 g was determined by rotating the rats on a specially prepared platform at 65 rpm and 210 rpm respectively for a period of 12 minutes. Indexes sought were the number of erroneous reactions, the latent period of

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USSR

NUDMAN, S. I., Zhurnal Vysshey Nervnoy Deyatel'nostinimeni I. P. Pavlov, Vol 21, No 2, 1971, pp 502-508

response reactions, and motor reaction time in the different age groups. The experiments established that all age groups responded in the same manner to centripetal acceleration at 0.6 g: motor reaction time increased, the period of latent response reaction decreased, while the number of erroneous reactions remained unchanged. Considerable changes were noted, however, in reactions to centripetal acceleration at 10 g: erroneous reactions and latent periods of response reactions increased in the 25-day old rats; motor reaction time markedly increased in the 1.5, 12, and 18-month old rats; the 24-month old rats exhibited greatest tolerance to practically all parameters of the conditioned reflex development.

The article is accompanied by five illustrations and 43 reference entries.

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1/2 034
TITLE--ANALYSIS OF A DIGITAL SYSTEM FOR MOVING TARGET SELECTION -U-
AUTHOR--(02)-NUFONMOV, YU.A., LUKHAREV, V.A.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, RADIOTEKHNIKA I ELEKTRONIKA, VOL XV, NO 7, 1970, PP
1411-1418
DATE PUBLISHED-----70
SUBJECT AREAS--NAVIGATION
TOPIC TAGS--DIGITAL SYSTEM, RADAR INTERFERENCE, MARKOV PROCESS, MATRIX
FUNCTION, RADAR DETECTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--3009/0342
CIRC ACCESSION NO--AP0139146
UNCLASSIFIED
PROCESSING DATE--04DEC70
STEP NO--UR/0109/70/015/007/1411/1418

UNCLASSIFIED

PROCESSING DATE--04DECTO

2/2 034
CIRC ACCESSION NO--AP0139146
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE CONTAINS AN ANALYSIS OF A DIGITAL SYSTEM FOR ALTERNATING PERIOD SUBTRACTION USED TO SUPPRESS PASSIVE INTERFERENCE IN RADAR WITH INTERNAL COHERENCE IN THE PRESENCE OF SIGNAL RADIATION WITH A HIGH OFF DUTY FACTOR. WHEN USING THE APPARATUS OF DISCRETE MARKOV CHAINS, RELATIONS WERE OBTAINED FOR THE ELEMENTS OF TRANSITION PROBABILITY MATRICES AT THE POINTS OF THE ALTERNATING PERIOD SUBTRACTION CHANNEL ELEMENTS. THE PROCESS OF ACCUMULATING REMAINDERS IS ANALYZED, AND EXPRESSIONS ARE OBTAINED FOR THE PROBABILITIES OF CORRECT DETECTION AND FALSE ALARM IN THE FORM OF AN EDGEWORTH SERIES WHEN THE PROCESS AT THE OUTPUT OF THE QUANTIZER IS A V-CONNECTED MARKOV CHAIN AND THE MULTIPLICITY OF THE SUBTRACTION IS ARBITRARY. AN EXAMPLE ILLUSTRATING THE APPLICATION OF THE PROPOSED METHOD OF ANALYSIS IS PRESENTED. THE DETECTION CHARACTERISTICS FOR A SINGLE ALTERNATING PERIOD SUBTRACTION SYSTEM WITH BINARY QUANTIZATION IN EACH QUADRATURE CHANNEL OBTAINED AS A RESULT OF THE THEORETICAL ANALYSIS AND FROM A COMPUTER EXPERIMENT ARE PRESENTED. GOOD COMPARISON OF THESE CHARACTERISTICS INDICATES THE CORRECTNESS OF THE INITIAL SUPPOSITIONS AND THE ANALYSIS METHOD.

UNCLASSIFIED

USSR

UDC 621.396.963.4

NUFONMOV, Yu.A., LUKHAREV, V.A.

"Analysis of a Digital System for Moving Target Selection"

Moscow, Radiotekhnika i Elektronika, Vol XV, No 7, 1970, pp 1411-1418

Abstract: This article contains an analysis of a digital system for alternating period subtraction used to suppress passive interference in radar with internal coherence in the presence of signal radiation with a high off-duty factor. When using the apparatus of discrete Markov chains, relations were obtained for the elements of transition probability matrices at the points of the alternating period subtraction channel elements. The process of accumulating remainders is analyzed, and expressions are obtained for the probabilities of correct detection and false alarm in the form of an Edgeworth series when the process at the output of the quantizer is a \vee -connected Markov chain and the multiplicity of the subtraction is arbitrary. An example illustrating the application of the proposed method of analysis is presented.

The detection characteristics for a single alternating period subtraction system with binary quantization in each quadrature channel obtained as a result

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USSR

NUFORMOV, Yu.A., Radiotekhnika i Elektronika, Vol XV, No 7, 1970, pp 1411-1418

of the theoretical analysis and from a computer experiment are presented. Good comparison of these characteristics indicates the correctness of the initial suppositions and the analysis method.

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- 56 -

AA0052656

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R.A.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

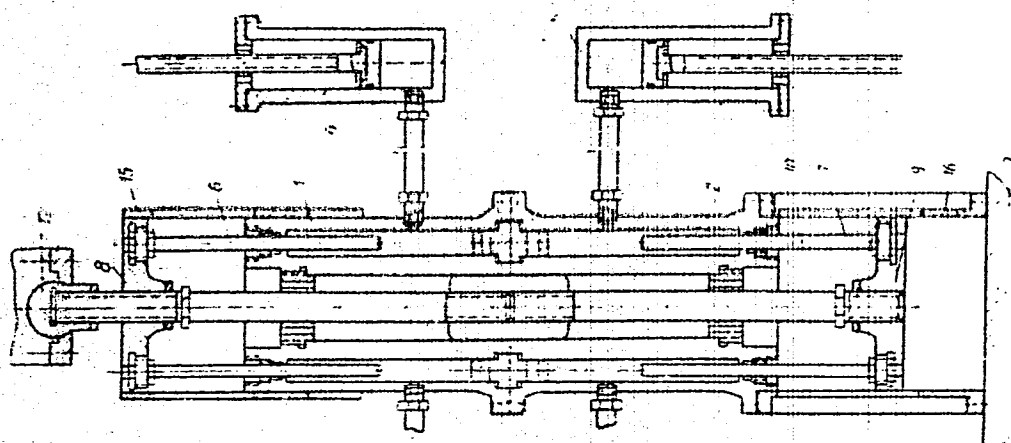
244817 TWO-SIDED HYDRAULIC DAMPER consists of two parts; 1 and 2 bolted together and mounted on base 3. It is filled with working medium under atmospheric pressure and connected by pipelines with additional chambers 4 and 5. The body contains a number of chambers with pistons 6 and 7 connected between themselves by crosspieces 8 and 9 which in turn are rigidly connected to rod 10. All the chambers are interconnected and each contains free piston which divides two media (air and fluid). The air medium communicates with the atmosphere through the non-return valve. Crosspieces 8 and 9 are connected to suitable guides 15 and 16. The pressure is transmitted to pistons 6 and 7 through the flange, thrust ball 17, rod 10 and crosspieces 8 and 9. 1.2.68. as 1214193/25-28. V.A.GOLUBEV et al. (9.10 69.) Bul.18/28.5.69. Class 47a. Int.Cl. F16f.

19821395

AA0052656

Morozova, Z.I.; Nugayev, R.A.;

Prokof'yeva, M.M.; Golubev, V. A.; Zhuravlev, A. M.



19821396

USSR

UDC 621.396.4:621.396.669.8

ROMANOV, I.M., NEZHMETDINOV, T.K., KOBCHIKOV, A.V., NUGMANOV, I.S.

"Introduction To The Theory Of Designing Asynchronous Pulse Radio Systems"

Vvedeniy v teoriyu proyektirovaniya asinkhronnykh impul'snykh radiosistem
(cf. English above), Moscow, "Sov.radio," 1971. 193 pp, ill. 54 k. (from
RZh: Radiotekhnika, No 2, Feb 1972, Abstract 2A205K)

Translation: From the position of system engineering the book considers a number of basic problems of the initial designing of asynchronous pulse radio systems (APRS) in which several nonsynchronized transmitters transmit information to a common receiving center. In the process, problems are considered connected with a specific efficiency of the APRS, and some interrelations of the probability characteristics of the system. Considerable attention is given to problems of the use of methods of the theory of mass maintenance and to evaluations of the noise immunity and the traffic capacity of the APRS on exposure to noise which imitates the applicable complex signals. Some methods are considered of increasing the efficiency and noise immunity of the APRS by additional processing of information by special logical devices and use of information and structural adaptations in these systems. The book is intended

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USSR

ROMANOV, I. M. et al, Vvedeniy v teoriyu proyektirovaniya asinkhronnykh imbul'snykh radiosistem, Moscow, "Sov. radio," 1971, 193 pp, ill. 54 k.

for specialists occupied with problems of designing complex radio systems and also for graduate students and students of advanced courses of higher educational institutions for corresponding specialities. 49 ill. 9 tab. 79 ref. Annotation.

2/2

- 15 -

USSR

UDC 616.12-007-053.1-089.5-06

SERGIYEVSKIY, V. S., TASHPULATOV, A. T., CHERNOV, V. K., NUGMANOV, YE. K., YAVORSKAYA, G. V., ERENBURG, T. A., LIZUNKOVA, L. P., and TSYBANEVA, N. G., Department of Cardiovascular Surgery, Kazakh Institute of Clinical and Experimental Surgery, Ministry of Public Health, Kazakh SSR, Alma-Ata

"Operative Complications During Correction of Congenital Heart Defects Under Conditions of Moderate Hypothermia"

Moscow, Grudnaya Khirurgiya, No 2, 1970, pp 57-62

Abstract: A total of 230 operations were performed using hypothermia at the institute from 1965 to 1969, operations were conducted to correct septal defects, pulmonary and aortic stenosis, tetralogy of Fallot, combined and rare defects. Among the life-threatening complications encountered in the operations were asystole, ventricular fibrillation, aeroembolism of the coronary vessels, loss of blood, atrioventricular and bundle-branch heart block. The causes of the complications are analyzed and suggestions made to prevent them and to control those that occur. With the present level of knowledge, mortality during operations performed under moderate hypothermia should not exceed 1%.

- END -

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7676

1840 (92 pages)

- 92 -

1/2 008 UNCLASSIFIED PROCESSING DATE--300C170
TITLE--REACTION OF SCHIFF BASES WITH 1,3 INDANDIONE -U-
AUTHOR--(03)--KOZLOV, N.S., PAK, V.D., NUGUMANOV, Z.Z.
COUNTRY OF INFO--USSR
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 194-6
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SCHIFF BASE, POLYNUCLEAR HYDROCARBON, AROMATIC KETONE,
HETEROCYCLIC NITROGEN COMPOUND, AMINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0841 STEP NO--UR/0409/70/000/002/0194/0196
CIRC ACCESSION NO--AP0124507
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 008

CIRC ACCESSION NO--AP0124507

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM 1,3 INDANDIONE (I) AND (M OR P SUBSTITUTED BENZAL)ANILINE OR (M OR P SUBSTITUTED BENZAL) BETA NAPHTHYLAMINES THE FOLLOWING 2 SUBSTITUTED 1,3 INDANDIONES WERE PREPD. IN ALC. OR BENZENE UNDER ELIMINATION OF ANILINE: BENZYLIDENE, M. 152-3DEGREES (YIELD 70PERCENT) FROM ANILINE DERIV.; P METHOXYBENZYLIDENE, M. 155-6DEGREES (YIELD 80PERCENT); P BROMOBENZYLIDENE, M. 169-70DEGREES (YIELD 85PERCENT); M NITROBENZYLIDENE, M. 246-8DEGREES; AND P NITROBENZYLIDENE, M. 228-30DEGREES (85PERCENT). USING BENZYLIDENE BETA NAPHTHYLAMINES SCHIFF BASES IN ETHANOL ON A WATER BATH THE PRODUCT OF THE REACTION WITH I WAS II. FACILITY: PERM. SEL'SKOKHOZ. INST. IM. PRYANISHNIKOVA, PERM, USSR.

UNCLASSIFIED

1/2 025
TITLE--CONTACT PROBLEM FOR AN ELASTIC INFINITE CONE -U-
AUTHOR--NULLER, B.M.
COUNTRY OF INFO--USSR
SOURCE--PRIKLADNAIA MATEMATIKA I MEKhanika, VOL. 34, MAR.-APR. 1970, P.
339-348
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--ELASTICITY, SHEAR STRESS, CONE SHELL, BOUNDARY VALUE PROBLEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAme--3007/0882
CIRC ACCESSION NO--AP0136316
STEP NO--UR/0040/70/034/000/0339/0348
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136316

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF THE AXISYMMETRIC MIXED BOUNDARY VALUE PROBLEM IN ELASTICITY THEORY FOR AN INFINITE CONE. AN EXACT SOLUTION TO THE PROBLEM IS OBTAINED UNDER THE ASSUMPTION THAT THE SHEARING STRESSES ARE ZERO OVER THE ENTIRE BOUNDING SURFACE OF THE CONE. FOR CONDITIONS CORRESPONDING TO THE SYMMETRICAL PENETRATION OF A FLAT CIRCULAR STAMP INTO AN ELASTIC HALF SPACE, THE SOLUTION OBTAINED LEADS TO THE WELL KNOWN FORMULA FOR THIS PROCESS.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SOLAR CELLS BASED ON EPITAXIAL GAAS FILMS --U-
AUTHOR--(03)-KAGAN, M.B., KOROLEVA, N.S., NULLER, T.A.
CCOUNTRY OF INFO--USSR
SOURCE--GELIOTEKHNKA, NO. 2, 1970, P. 28-31. 13 REFS.
DATE PUBLISHED--70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS, ENERGY
CONVERSION (INCN-PROPULSIVE)
TOPIC TAGS--SOLAR CELL, EPITAXIAL PN JUNCTION, GALLIUM ARSENIDE PN
JUNCTION, THIN FILM CIRCUIT, CRYSTAL DEFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1846

STEP NO--UR/0377/70/000/002/0028/0031

CIRC ACCESSION NO--AP0130676

UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0130676

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE MAIN PROPERTIES OF SOLAR CELLS OBTAINED BY CREATING HOMOGENEOUS DIFFUSION P-N JUNCTIONS IN AN EPITAXIAL FILM OF GALLIUM ARSENIDE GROWN ON A GERMANIUM SINGLE CRYSTAL SUBSTRATE. IT IS SHOWN THAT THE DIFFUSION JUNCTIONS THUS OBTAINED EXHIBIT THE PROPERTIES OF HOMOGENEOUS DIFFUSION P-N JUNCTIONS IN SINGLE CRYSTAL GALLIUM ARSENIDE. ALTHOUGH DEFECTS LEADING TO SOMEWHAT LARGER LEAKAGE CURRENTS THAN ARE CHARACTERISTIC OF SINGLE CRYSTAL P-N JUNCTIONS ARE FOUND TO BE PRESENT IN THE BULK OF THESE FILM JUNCTIONS, IT IS CONCLUDED THAT THESE DEFECTS CAN BE PREVENTED BY PREDIFFUSION, LOW TEMPERATURE ANNEALING OF THE FILMS. FACILITY: VSESOUZNYI NAUCHNO-ISSLEDOVATEL'SKII INSTITUT ISTOCHNIKOV TOKA, KISHINEV, MOLDAVIAN SSR.

UNCLASSIFIED

USSR

UDC 616.895.5-085

MULLER, YU. L., and RABINOVICH, M. M., Leningrad Scientific Research Institute
imeni V. M. Bekhterev and Sixth Psychiatric Hospital, Leningrad

"Comparison of Lithium Carbonate, Haloperidol, and Preparation IB-503 in the
Treatment of Manic States"

Moscow, Zhurnal Nevropatologii i Psikhatrii, No 2, 1971, pp 277-283

Abstract: Twenty-three of 50 patients with manic-depressive psychosis in the manic phase were treated with lithium carbonate (1,200 to 2,100 mg daily), 17 with haloperidol (11 to 35 mg daily) or haloperidol combined with lithium carbonate, and 10 with preparation IB-503 (200 to 450 mg daily). The condition of the patients before, during, and after therapy was judged from a rating scale assigning points to various clinical manifestations of the psychosis. Haloperidol proved to be effective in all 17 patients regardless of the severity of the manic symptoms, while lithium was effective in only those with mild or moderately severe symptoms. However, lithium was more specific with respect to regression of the manic symptoms. IB-503 was the least effective, although it was a more potent somnifacient than the other two drugs. Lithium produced only minor side effects (mild intestinal disorders), whereas haloperidol gave rise to mood swings, pronounced depression, and other disturbances.

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- 93 -

1/2 020
TITLE--THE INFLUENCE OF SOME FACTORS ON THE MORBIDITY AND COURSE OF MANIC
DEPRESSIVE PSYCHOSIS. CLINICO STATISTICAL STUDY -U-
AUTHOR--(02)-MIKHALENKO, I.N., NULLER, YU.L.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,
VOL 70, NR 6, PP 907-911
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL
SCIENCES
TOPIC TAGS--PSYCHIATRY, PSYCHOSIS, MEDICAL EXAMINATION

CENTRGL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1158

STEP NO--UR/0246/70/070/006/0907/0911

CIRC ACCESSION NO--AP0126761

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT76

CIRC ACCESSION NO--AP0126761

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN STUDYING 125 PATIENTS WITH MANIC DEPRESSIVE PSYCHOSIS THE AUTHORS TOOK INTO CONSIDERATION THE HEREDITY, PERSONALITY TRAITS, SOMATIC DISEASES, BRAIN INJURIES AND SOME OTHER EXOGENOUS NOXIOUS FACTORS. THE PURPOSE OF THE STUDY WAS TO DETERMINE SOME CORRELATIONS BETWEEN THESE FACTORS AND THEIR INFLUENCE ON THE DEVELOPMENT OF THE PSYCHOSIS. IN PATIENTS WITHOUT HEREDITY LOADING AN ANXIETY SUSPICIOUS PREMORBID CHARACTER AND MALARIA IN THE PAST WAS ENCOUNTERED MUCH MORE FREQUENTLY, THAN IN PATIENTS WITH A PATHOLOGICAL HEREDITY. THE AUTORS ASSUME THAT AN ANXIOUS, SUSPICIOUS CHARACTER AND MALARIA IN THE PAST ARE FACTORS INCREASING THE PROBABILITY OF MANIC DEPRESSIVE PSYCHOSIS. IN PATIENTS WITH HOMOGENOUS HEREDITY PATIENTS WITH MANIC AND DEPRESSIVE PHASES, AS WELL AS WITH A CIRCULAR COURSE OF THE CONTINUAS TYPE WERE MORE FREQUENTLY ENCOUNTERED. THE AUTHORS PRESENT DATA ON THE COURSE OF THE PSYCHOSIS IN SEPARATE GROUPS OF PATIENTS. FACILITY: LENINGRADSKOGO PSIKHONEVROLOGICHESKOGO INSTITUTA IM. BEKHTEREVA.

UNCLASSIFIED